

Abstract of the Disclosure

3 A selectable waveguide transitions between two positions
4 to at least two independent signals by their polarization or
5 frequency. This waveguide consists of dissimilar wave sections
6 coupled to an antenna feed and is mechanically actuated for
7 signal selection switching to route signals to output ports and
8 respective probes that are polarization sensitive. The
9 waveguide sections offer high polarization purity so that
10 signal components remain separated to avoid mutual interference
11 and low insertion loss to maintain system efficiency.

12 Selectable waveguide can be extended for multiple polarization
13 and frequency operation. Frequency selective surfaces and
14 tapers establish pass bands and attenuation levels for
15 frequency selection. The selectable waveguide is suitable for
16 both frequency and polarization selectively in antenna system.

17 Selectable waveguides can be cascaded and mechanically actuated
18 for creating selectable waveguides arrangements enabling a wide
19 variety of frequency and polarization selectively operating
20 through a single apparatus.

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